

Vedic Origins of Greek Mathematics

GREEK MATHEMATICS WAS DEEPLY INDEBTED TO VEDIC INDIA, WRITES PROF KENNETH CHANDLERS

Recent scholarship has traced the origin of both Greek and Arabic mathematics to Vedic India. The American mathematician Abraham Seidenberg has made a cogent case in the Archive for History of Exact Sciences that mathematics originated in India long before it was known in Greece. He holds that the Sulbha Sutras, the ancient Vedic mathematics of Kalpa, "inspired all the mathematic sciences from Babylonia to Egypt and Greece." He writes that, "Arithmetic equations from the Sulbha Sutras were used in the observation of the triangle by the Babylonians and the theory of contraries and of inexactitude in arithmetic methods, discovered by the Hindus, inspired Pythagorean mathematics."

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much of his mathematics from Indian sources and that the origins of arithmetic and geometry can be traced to the Sulbha Sutras. The Sulbha Sutra, written before the sixth century BCE, made use of the so-called Pythagorean theorem centuries before it was known by Pythagoras. The Sulbha Sutras say: "The diagonal chord of the rectangle makes both the squares that the horizontal and vertical sides make separately."

Not even Pythagoras stated the theorem (that bears his name in the West) so exactly, for the Pythagoreans knew the properties of the 3,4,5 triangle, but did not state the universal theorem as exactly as the Sulbha Sutras. Many other aspect of Greek mathematics have been traced to sources in ancient India. Our zero-based number system (the place-value number system), passed into Europe through Arabia, and thus was called "Arabic numerals" in Europe, but in ancient Arabia they were called "Indian numerals" and mathematics was called the "Indian art." The value of "pi" was first calculated in India by Budhayana, long before it was known in Europe. Greek mathematics was deeply indebted to Vedic India.

A Provisional Timeline

According to the most solid scientific method of dating available at present, the Mahabharata War occurred in 3067

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BCE. This puts the Vedic period more than 2500 years before the Pre-Socratic Greek, Taoist, Confucian, Buddhist, Hermetic, and Chaldean knowledge-cultures that sprang up in and around the sixth century BCE. The Vedic tradition was the great grandfather of them all. Even if the Vedic tradition began as late as 1600 BCE, as the conventional theories had it, the Vedic period was still about five hundred years before Pre-Socratic Greece. The Vedic tradition was passed orally for millennia before the advent of writing and did not leave traces in stone or written language. How far back in time it began is obscure. India was populated by humans by at least 85,000 BCE. By 40,000 BC, hunter-gatherers lived in shelters made of stacked rocks in the Punjab. Because it was an oral tradition,

Sub sutra or corollary	Translation
आनुप्येण	Proportionately
शिष्यते शेषसंज्ञः	The Remainder Remains Constant
आध्रमाधेनान्त्यमन्त्येन	The First by the First and the Last by the Last
केवलैः सप्तकं गुण्यात्	For 7 the Multiplicand is 143
वेष्टनम्	By Osculation
यावदूनं तावदुनं	Lessen by the Deficiency
यावदूनं तावदुनीकृत्य वर्गं च योजयेत्	Whatever the Deficiency lessen by that amount and set up the Square of the Deficiency
अन्त्ययोर्दशकेऽपि	Last Totaling 10
अन्त्ययोरेव	Only the Last Terms
समुच्चयगुणितः	The Sum of the Products
लोपनस्थापनाभ्यां	By Alternative Elimination and Retention
विलोकनं	By Mere Observation
गुणितसमच्चयः समुच्चयगुणितः	The Product of the Sum is the Sum of the Products
ध्वजाड	On the Flag

we simply do not know how long ago it began; but the main body of the tradition had occurred before the time of the Mahabharata War.

The Vedic tradition of transcending and experiencing pure consciousness was the

taproot of the knowledge traditions of the ancient world. One of its most glorious branches was ancient Greece. Next, we see that Greek culture was permeated by precise descriptions of transcending and pure consciousness.



Understanding Chanakya

1. In this world, whose family is there without blemish? Who is free from sickness and grief? Who is forever happy?
2. A man's descent may be discerned by his conduct, his country by his pronunciation of language, his friendship by his warmth and glow, and his capacity to eat by his body.
3. Give your daughter in marriage to a good family, engage your son in learning, see that your enemy comes to grief, and engage your friends in dharma. (Krsna consciousness).
4. Of a rascal and a serpent, the serpent is the better of the two, for he strikes only at the time he is destined to kill, while the former at every step.
5. Therefore kings gather round themselves men of good families, for they never forsake them either at the beginning, the middle or the end.
6. At the time of the pralaya (universal destruction) the oceans are to exceed their limits and seek to change, but a saintly man never changes.
7. Do not keep company with a fool for as we can see he is a two-legged beast. Like an unseen thorn he pierces the heart with his sharp words.
8. Though men be endowed with beauty and youth and born in noble families, yet without education they are like the palasa flower which is void of sweet fragrance.
9. The beauty of a cuckoo is in its notes, that of a woman in her unalloyed devotion to her husband, that of an ugly person in his scholarship, and that of an ascetic in his forgiveness.
10. Give up a member to save a family, a family to save a village, a village to save a country, and the country to save yourself.
11. There is no poverty for the industrious. Sin does not attach itself to the person practicing japa (chanting of the holy names of the Lord). Those who are absorbed in maunam (silent contemplation of the Lord) have no quarrel with others. They are fearless who remain always alert.
12. What is too heavy for the strong and what place is too distant for those who put forth effort? What country is foreign to a man of true learning? Who can be inimical to one who speaks pleasingly?
13. As a whole forest becomes fragrant by the existence of a single tree with sweet-smelling blossoms in it, so a family becomes famous by the birth of a virtuous son.
14. As a single withered tree, if set aflame, causes a whole forest to burn, so does a rascal son destroy a whole family.
15. As night looks delightful when the moon shines, so is a family gladdened by even one learned and virtuous son.
16. What is the use of having many sons if they cause grief and vexation? It is better to have only one son from whom the whole family can derive support and peacefulness.

Part II

Prez plauds Pune Indic research body



Youth should take interest in history just as the older generation is taking efforts to preserve it and Bharat Itihas Sanshodhan Mandal is leading the way by including both young and old in their efforts to preserve history, said President Pratibha Patil at the centenary celebrations of the Bharat Itihas Sanshodhak Mandal at Balgandharva Rang Mandir on recently.

"There's a difference when a person completes 100 years and an institution completes 100 years. People will come and go but institutions will carry on their good work," she said.

Even as 100 years back Kashinath Rajwade started the institute, the man, who worked as a teacher at New English school dedicated his life for history. He

founded the Mandal in 1910 and since then the work of research in history has continued under eminent historians such as Datta Waman Potdar, Dr G H Khare, Devising Chauhan, V C Bendre and Shivshahir Babasaheb Purandare.

"I am happy to felicitate Babasaheb Purandare for his enormous work in bringing Shivaji Maharaj through his research to the masses," said the President.

She further said that historical evidences does not only mean merely restoration but also helps in reviving old ties between countries. Citing her recent visit to Laos and Cambodia which had ample amount of Indian history etched on their temples, she said only history can help bridge these gaps.

President of centenary celebrations Union Power Minister Sushil Kumar Shinde said the work of the mandal was truly commendable and he had accepted the position of the president of the mandal after seeing the quality work put forth by the researchers. Having taken up the daunting task of digitising of manuscripts, he said they were supported by National Museum for manuscripts while the Bangalore based Regional Conservation Laboratory were helping in preserving the miniatures.

Shinde demanded Rs 5 crore for the work from the state government and has also demanded a budget allocation of Rs 32.70 lakh every year towards the Mandal for preserving the ancient manuscripts.